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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/573,028	11/02/2006	Allan Johansson	0365-0669PUS1	4441
2292 7590 09/02/2010 BIRCH STEWART KOLASCH & BIRCH PO BOX 747 FALLS CHURCH, VA 22040-0747				
EXAMINER				
CHAN, HENG M				
ART UNIT		PAPER NUMBER		
1795				
NOTIFICATION DATE		DELIVERY MODE		
09/02/2010		ELECTRONIC		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

mailroom@bskb.com

# Office Action Summary

**Application No.**

10/573,028

**Applicant(s)**

JOHANSSON ET AL.

**Examiner**

HENG M. CHAN

**Art Unit**

1795

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 02 June 2010.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-11 and 13-17 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-11 and 13-17 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 March 2006 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☒ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB-06)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

***Status of Application***

Applicant's amendments and remarks filed 6/2/2010 have been acknowledged.  
Claims 2-11 and 13-17 are pending.

***Priority***

1. Applicants requested that the Examiner acknowledge that all certified priority documents have been received. However, the Examiner did not find a certified copy of foreign priority document 20035172.

***Drawing***

2. The drawing submitted on 3/22/2006 is objected to because it is the only drawing and so should not be labeled and referred to as "Figure 1."

***Claim objections***

3. The previous objection to claim 2 has been withdrawn as a result of Applicants' amendments. However, claim 2 is objected to because the word "the" before "raising" should be deleted to avoid lack of antecedent basis.

Claim 7 remains objected to because Applicants did not insert the word "a" between "which" and "small" in line 2.

***Rejection under 35 USC 112, 2nd paragraph***

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Applicants have asserted in the arguments/remarks that they have amended the rejected claims 2, 5, 10, 11, 16, and 17 in order to overcome the rejection under 35 USC 112, 2nd paragraph. However, corresponding amendments were not found in the claims. The previous rejection of the above claims under 35 USC 112, 2nd paragraph has been maintained and repeated below for clarity.

4. **Claims 2, 5, 10, 11, 16, and 17** are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The term "low" in claim 2 is a relative term which renders the claim indefinite. The term "low" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. For examination purposes, the limitation "at a low temperature" is interpreted as any temperature.

Claim 5 recites the limitation "the cellulose ester or cellulose ether" in line 5. There is insufficient antecedent basis for this limitation in the claim.

Claims 10, 16, and 17 recite the limitation "the starch-based material." There is insufficient antecedent basis for this limitation in the claim. It is also unclear as to which material or which stage of the method this starch-based material is referring.

Claim 11 recites the limitation "the starch gels/starch foams" in line 2. There is insufficient antecedent basis for this limitation in the claim. It is also unclear whether or not both the starch gels and starch foams are required because of the slash.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

**5. Claims 1-11 and 13-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 5,851,461 to Bakis et al.**

Regarding claim 2, Bakis et al. teach a method of manufacturing a porous starch-based product comprising a stable foam, said method comprising:

introducing a gas, at a first temperature, into an aqueous solution of a polysaccharide, for example, starch, after which raising the temperature with heated air generates a gas/liquid phase separation, and the product is crosslinked to achieve said stable foam, wherein said stable foam contains foam bubbles and the average size of said bubbles may be controlled in the range of 5-500  $\mu$  (from column 2, line 46 to column 3, line 13; column 3, lines 18-19 and 25 and 26; column 4, lines 19-24). The introduction of the gas into the aqueous starch solution results in a very fine dispersion of gas bubbles in the solution, which suggests that at least some of the gas is dissolved in the solution. The limitation "pigment or filler" in the preamble is a recitation of an

intended use of the claimed invention in the preamble. It must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. See MPEP § 2111.02. In this case, since the porous starch-based product of Bakis et al. comprises a stable foam, it is considered to be capable of performing the intended use.

Bakis et al. do not expressly teach that the average size of bubbles is less than approximately 10 micrometers.

However, it would have been obvious to one of ordinary skill in the art at the time of the invention to have the recited average size of bubbles because a *prima facie* case of obviousness exists in the case where the claimed ranges "overlap or lie inside ranges disclosed by the prior art". *In re Wertheim*, 541 F.2d 257, 191 USPQ 90 (CCPA 1976); *In re Woodruff*, 919 F.2d 1575, 16 USPQ2d 1934 (Fed. Cir. 1990). See MPEP 2144.05[R-5]. Furthermore, Bakis et al. teach that the pore size can be controlled in the mechanical action of forming the bubbles (column 3, lines 8-13).

Finally, Bakis et al. do not expressly teach a water gel of starch.

However, it would have been obvious to one of ordinary skill in the art at time of invention to have arrived at the claimed invention because the formation of a water gel of starch depends on the starch of choice, the concentration of the starch in the solution, the gelatinization temperature of that starch, etc. Although Bakis et al. begin with an aqueous solution of starch, depending on the identify and content of the starch, as well as the conditions for the mechanical foaming process, the starch may gelatinize

due to heat and friction generated by the mechanical action of foaming. The gas would have continued to be introduced and dissolved into the resulting water gel of starch to give the wet foam.

Regarding claims 3-11 and 13-17, since steps b), c), and d) of claim 2 are written as optional method steps that are not required by claim 2, the instant claims as written are *provisio* upon limitations c) and d) not required by the independent claim and therefore do not come into force. They are rejected under the same ground of rejection As claim 2.

### ***Response to arguments***

Applicants cited an earlier response filed with the EPO in the arguments/remarks filed on 1/28/2010. However, it seems that the citation was interrupted after page 10 since the top of page 11 does not seem to be continued from the previous page. Applicants also did not indicate what the D1 was under discussion. From reading the 4th paragraph of page 11, the method of D1 appeared to be the same or similar to US 6,582,509 to Malkki et al.

However, Applicant's arguments with respect to claims 2-11 and 13-17 have been considered but are moot in view of the new ground(s) of rejection. The Examiner has cited a newly discovered reference to US 5,851,461 to Bakis et al. to address method (a) of claim 2.

**Conclusion**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to HENG M. CHAN whose telephone number is (571)270-5859. The examiner can normally be reached on Monday to Friday, 9:00 am EST to 6:00 pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jennifer K. Michener can be reached on (571)272-1424. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Jennifer K. Michener/  
Supervisory Patent Examiner, Art Unit 1795

/HENG M CHAN/  
Examiner, Art Unit 1795